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RE: Opposition to NextNav proposal for changes to “lower 900” band as set forth in WT Docket 24-240

I am George J Csahanin, a licensed amateur radio operator with callsign of W2DB and I am a retired Director of Engineering from LIN Television and Media General. My amateur radio license was first issued in 1968, and I have maintained an active role in it since that time. My broadcast RF experience dates to 1973 until retirement in 2017 with most of that time spent with RF systems, frequency coordination, signal propagation studies and license application preparation.

The Commission requested information on amateur use in the lower 900 band in connection with WT Docket 24-240 as released in DA 24-776. I address issues I see as follows:

Amateur operations occur in harmony with other incumbent operations in the lower 900 band as the amateurs are primarily using 902-903 for uplink and 927-928 downlink. Those two “ends” of the band have lowest noise floor from all other sources in the band.

In the state of Texas, for example, there are 54 coordinated and operating mobile relay FM, P25, or DMR (repeater) systems operating and possibly more that have not been coordinated by the Texas VHF FM Society, the recognized frequency coordinator in that state. Approximately 30 of these are interconnected via RF link as well as network connection. In the US there are around 600 mobile relay (repeater) systems currently coordinated. There is also a 100 kHz span at the very “bottom” of the band from 902.00 MHz - 902.10 MHz used for “weak signal” and propagation studies (beacons). The interconnection mentioned above extends far beyond Texas including approximately 30 more stretching from Long Island to Hawaii. And this is only one such network. This represents individual amateur operator’s expenditures of typically $5000 per site when the cost of used mobile relay equipment, duplexer system, antenna and transmission line are considered. The equipment available for the most part cannot be made to operate in the compressed band (907-918 MHz)

Above 903 and below 927 MHz the noise floor is significantly higher due to such uses as traffic monitoring and “smart meter” mesh networks utilized by electric power distribution companies. While it is possible for amateurs to move their operations there are four negative aspects to that. 1) Higher noise 2) The cost of equipment changes. This includes retuning of duplexer filters where possible though in some cases the current equipment cannot be tuned to adequately perform in the compressed spectrum (907-918 MHz) assuming the uplinks would use 907-908 MHz and downlink would use 917-918. This would be a 10 MHz offset from up to down links (e.g. 907.0625 MHz uplink paired with 917.0625 MHz downlink) as opposed to the current 25 MHz offset (e.g. 902.0625 uplink paired with 927.0625 downlink) 3) Most of the equipment in service by amateurs is repurposed commercially available surplus equipment primarily made by either Motorola or Kenwood. Some of these radios cannot be made to work between 907 MHz and 918 MHz (VCO lock issues and/or RF sections not able to retune to those frequencies.) This last point (3) is very significant. The reason the 902-903 MHz range is used for uplink is simply because a majority of the mobile/portable) radios used were originally designed to transmit up to 902 MHz 4) Use of the existing equipment with 25 MHz uplink to downlink separation was used to compress operation into the lower 900 band spectrum. This equipment typically was designed for a 39 MHz separation. This represents a performance compromise that exists right now.

The NextNav proposal also appears to be not primarily intended to augment GPS but rather an end run to establish a new wireless service band. Any modification of the lower 900 band needs to first negate/cancel those existing LMS licenses/leases and re-establish the new service parameters and go through the rulemaking/auction process. As NextNav has presented its case it would have a major benefit without going through normal procedures and there might also be other parties that can provide even better use of the lower 900 spectrum.

I also feel that any entity wanting to provide enhanced GPS must provide financial ability to make those systems available to any user at no cost and provide financial resources to operate and maintain these systems for a period of 20 years regardless of profits.

Respectfully

George J Csahanin

August 30, 2024